

ABSTRACT OF THE DISCLOSURE

There is provided a method for manufacturing a semiconductor device including a capacitor having a lower electrode, an upper electrode and a capacitive insulating film between the lower electrode and the upper electrode on a semiconductor substrate, wherein the capacitive insulating film is formed on the lower electrode over the semiconductor substrate using a chemical vapor deposition method, the method including:

10 a lower electrode forming step of forming the lower electrode on the semiconductor, a dual-stage deposition step including a first stage for introducing a material gas containing a specified metal into a reactor in which the semiconductor substrate is placed and a second stage for subsequently introducing an oxidizing gas into

15 the reactor, and wherein a metal oxide film as an oxide of the specified metal is formed on the lower electrode over the semiconductor substrate, by repeating the dual-stage deposition step two or more times, thereby forming the capacitive insulating film; and an upper electrode forming step of forming the upper

20 electrode on the capacitive insulating film. Thus, it is possible to obtain the capacitive insulating film having good step coverage and a good film quality, without reducing throughput.